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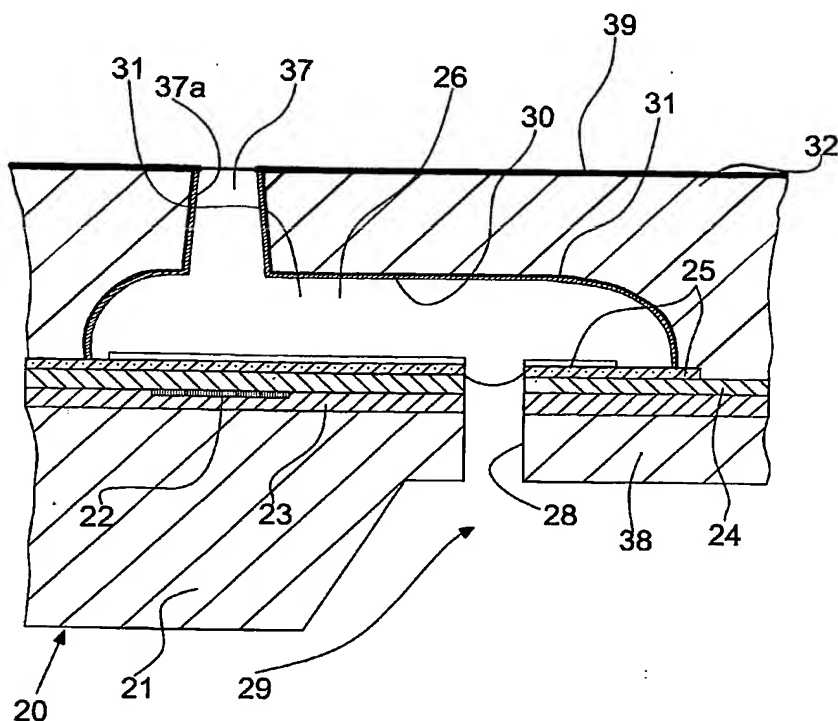
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— as to applicant's entitlement to apply for and be granted  
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BR, CA, CN, HU, IL, IN, JP, KR, MX, RU, SG, TR, YU, ZA,  
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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR)

— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: PROCESS FOR PROTECTIVELY COATING HYDRAULIC MICROCIRCUITS AGAINST AGGRESSIVE LIQUIDS,  
PARTICULARLY FOR AN INK JET PRINthead



(57) Abstract: Process for protectively coating against aggressive liquids hydraulic microcircuits made in a resin (32), particularly for an ink jet printhead, consisting of: a) disposing of a silicon substrate (20) comprising a sacrificial layer (26) of copper, deposited on the substrate and defining the inner shape of the hydraulic microcircuits (35, 36, 37); b) depositing on top of the outer surface of the sacrificial layer (26), by means of an electrochemical process, at least one protective, metallic coating layer (30); c) applying on the sacrificial layer (26) a non-photosensitive epoxy or polyamide resin (32), having a predetermined thickness and suitable for completely covering the sacrificial layer (26); d) effecting a polymerization of the resin (32) to increase its mechanical resistance to mechanical and thermal stresses and performing a planarization of the outer surface (33) of the resin (32), by means of a mechanical lapping and simultaneous chemical treatment; e) removing the sacrificial

layer (26) through a chemical etching, in a highly acid bath; f) depositing a metallic, protective layer (39) on the outer surface (33) of the resin (32), through vacuum evaporation.

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# INTERNATIONAL SEARCH REPORT

Intern. Application No

PC1 03/00843

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B41J2/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 B41J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 423 241 B1 (HAN CHUL HI ET AL) 23 July 2002 (2002-07-23)	16
Y	column 8, line 22 - column 9, line 46; figures 6-8,15	9-15
A		1-8,17
Y	US 6 045 215 A (COULMAN DONALD J) 4 April 2000 (2000-04-04)	9-15
A	column 15, line 40 - column 17, line 3	1-8,16, 17
A	US 2001/012036 A1 (GIERE MATTHEW ET AL) 9 August 2001 (2001-08-09) paragraphs '0030! - '0031!; figures 3,4	1-17

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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